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h	21	1449A/PT	0	Application Number	10/047,976
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INFO	MATION DI	ADDI I	CANT	First Named Inventor	Steven Teig
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			U.S. PATE	NT DOCUMENTS	
Examiner* Initials	Cite No.1	U.S. Patent Document Number	Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Related Application Data
75	1.	2003/0101428 S/N 10/040.915	01-05-2002	Steven Teig et al.	Previously Specified
	2.	2003/0043827 S/N 10/040,953	01-05-2002	Steven Teig et al.	Previously Specified
	3.	2003/0023943 S/N 10/040,954	01-05-2002	Steven Teig et al.	Previously Specified
	4.	2003/0066042 S/N 10/040,963	01-05-2002	Steven Teig et al.	Previously Specified
	5.	2002/0174412 S/N 10/041,942	01-07-2002	Steven Teig et al.	Previously Specified
	6.	2003/0088844 S/N 10/041,957	01-07-2002	Steven Teig et al.	Previously Specified
	7.	2002/0199165 S/N 10/046,864	01-13-2002	Steven Teig et al.	Previously Specified C
	8.	2003/0056187 S/N 10/047,982	01-14-2002	Steven Teig et al.	Previously Specified
	9.	2002/0073390 S/N 09/737,210	12-13-2000	Steven Teig et al.	Previously Specified 7/ 1/2,
	10.	2002/0124231 S/N 09/739,580	12-15-2000	Steven Teig et al.	Previously Specified
	11.	2003/0121015 S/N 09/745,067	12-19-2000	Steven Teig et al.	Previously Specified
	12.	20020166105 S/N 10/040,948	01-05-2002	Steven Teig et al.	Previously Specified
	13.	2003/0088841 S/N 10/329,241	12-23-2002	Steven Teig et al.	Previously specified
VS.	14.	2003/0088845 S/N 10/047,978	01-13-2002	Steven Teig et al.	Parent application of the parent application (2003/0079193) of the present application

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SIA	TEMENT BY	APPLIC	JANI	Group Art Unit	2825	
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Sheet	1	of	6	Attorney Docket Number	SPLX.P0084	

				U.S. PA	TENT DOCUMENTS	
Examiner* Initials	Cite No.	U.S. Patent Docum Number Kind Co (if know	de ²	Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
VS	1.	2001/0009031	A1	07-19-2001	Nitta et al.	
	2.	2002/0182844	A1	12-05-2002	Igarashi et al.	
	3.	2003/0005399	A1	01-02-2003	Igarashi et al.	
	4.	4,593,363		06-03-1986	Burstein et al.	
	5.	5,267,176		11-30-1993	Antreich et al.	
	6.	5,566,078		10-15-1996	Ding et al.	
	7.	5,587,923		12-24-1996	Wang	
	8.	5,618,744		04-08-1997	Suzuki et al.	
	9.	5,635,736		06-03-1997	Funaki et al.	
	10.	5,637,920		06-10-1997	Loo	
	11.	5,640,327		06-17-1997	Ting	
	12.	5,663,891		09-02-1997	Bamji et al.	· \
	13.	5,757,089		05-26-1998	Ishizuka	
	14.	5,784,289		07-28-1998	Wang	
	15.	5,798,936		08-25-1998	Cheng	
	16.	5,838,583		11-17-1998	Varadarajan et al.	
	17.	5,889,677		03-30-1999	Yasuda et al.	
	18.	5,980,093		11-09-1999	Jones et al.	
	19.	6,070,108		05-30-2000	Andreev et al.	\
	· 20.	6,128,767		10-03-2000	Chapman	
	21.	6,150,193		11-21-2000	Glenn	
V5	22.	6,209,123	B1	03-27-2001	Maziasz et al.	

Examiner Signature	VUTHE SIEK	Date Considered	7/27/04

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Application Number	10/047,976
Filing Date	1/13/02
First Named Inventor	Steven Teig
Group Art Unit	2825
Examiner Name	V. Siek
Attorney Docket Number	SPLX.P0084

				U.S. PA	TENT DOCUMENTS
1/5	23.	6,219,832	B1	04-17-2001	Buzbee
1	24.	6,226,560	B1	05-01-2001	Hama et al.
	25.	6,249,902	B1	06-19-2001	Igusa et al.
	26.	6,253,363	B1	06-26-2001	Gasanov et al.
	27.	6,295,634	B1	09-25-2001	Matsumoto
	28.	6,307,256	B1	10-23-2001	Chiang et al.
	29.	6,316,838	B1	11-13-2001	Ozawa et al.
	30.	6,324,675	B1	11-27-2001	Dutta et al.
	31.	6,327,693	В1	12-04-2001	Cheng et al.
	32.	6,330,707	B1	12-11-2001	Shinomiya et al.
	33.	6,407,434	B1	06-18-2002	Rostoker et al.
	34.	6,448,591	B1	09-10-2002	Juengling
	35.	6,473,891	B1	10-29-2002	Shively
	36.	6,490,713	B2	12-03-2002	Matsumoto
	37.	6,519,751	B2	02-11-2003	Sriram et al.
	38.	6,543,043	B1	04-01-2003	Wang et al.
1/5	39.	6,546,540	B1	04-08-2003	Igarashi et al.

	FOREIGN PATENT DOCUMENTS									
Examiner* Initials	Cite No.	Fo Office ³	Patent Docu	ment Kind Cod (if known	Name of Patentee or Applicant of Cited Document	Date of Publication MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Tº		
1/5,	40.	JP	411296560	Α	Matsumoto et al.	10-29-1999	with English translation of Abstract;			
1/5	41.	JP	2000-82743	Α	Igarashi et al.	03-21-2000	with Japanese Patent Office's English	1		

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STATEMENT BY APPLICANT				First Named Inventor	Steven Teig	
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Sheet	3	of	6	Attorney Docket Number	SPLX.P0084	

					FOREIGN PATENT DOCUMENTS	3		
							translation of Abstract; and with English translation of the application.	
1	42.	JР	H03-173471	А	Tawada et al.	07-26-1991	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	1
	43.	JP	H05-243379	Α	Masako Kubota	09-21-1993	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	1
	44.	JP	H05-102305	Α	Akihiro Sato	04-23-1993	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	1
	45.	JP	H07-86407	A	Shinpei Miura	03-31-1995	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	1
V/\$	46.	JP	H09-162279	Α	Masaaki Yoshida	06-20-1997	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	1

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B	19	Substitute for form	1449A/PT	0	Application Number	10/047,976
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	INFORMATION DISCLOSURE STATEMENT BY APPLICANT				First Named Inventor	Steven Teig
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	Sheet	4	of	6	Attorney Docket Number	SPLX.P0084

		NON PATENT LITERATURE DOCUMENTS	
Examiner'	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
15	47.	Ahuja, R. et al., Faster Algorithms for the Shortest Path Problem, Journal of the Association for Computing Machinery, vol. 37, No. 2, April 1990, pp. 213-223.	
	48.	Brady, L. et al., Channel Routing on a 60° Grid, extended abstract, pp. 956-931.	
	49.	Brambilla, A. et al., Statistical Method for the Analysis of Interconnects Delay in Submicrometer Layouts, IEEE, 8/2001, pp. 957-966.	
	50.	Carothers, K., A Method of Measuring Nets Routability for MCM's General Area Routing Problems, 1999, pp. 186-192.	
	51.	Chen, H. et al., Physical Planning of On-Chip Interconnect Architectures, 2002, IEEE, International Conference, pp. 30-35.	
	52.	Cheng, K., Steiner Problem in Octilinear Routing Model, a Thesis Submitted for the Degree of Master of Science, National University Singapore, 1995, pp. 1-122.	
	53.	Chip Model with Wiring Cost Map, August 1983, IBM Technical Disclosure Bulletin, vol. 26, iss. 3A, pp. 929-933.	
	54.	Cong, J. et al., Efficient Heuristics for the Minimum Shortest Path Steiner Arborescence Problem with Applications to VLSI Physical Design, Cadence Design Systems and UCLA Computer Science Department, pp.88-95.	
	55.	Cong, J. et al., Performance-Driven Multi-Layer General Routing for PCB/MCM Designs, UCLA Computer Science Department, 1998, pp. 356-361.	
	56.	Enbody, R. et al., Near-Optimal <i>n</i> -Layer Channel Routing, 23 rd Design Automation Conference, 1986, pp. 708-714.	
	57.	Fang, S. et al., Constrained Via Minimization with Practical Considerations for Multi-Layer VLSI/PCB Routing Problems, 28 th ACM/IEEE Design Automation Conference, 1991, pp. 60-65.	
1	58.	Hom, I. et al., Estimation of the Number of Routing Layers and Total Wirelength in a PCB Through Wiring Distribution Analysis, 1996, pp. 1-6.	
1/2	59.	Hong, X. et al., Performance-Driven Steiner Tree Algorithms for Global Routing, 30 th ACM/IEEE Design Automation Conference, 1993, pp. 177-181.	

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Application Number 10/047,976 Substitute for form 1449A/PTO MADEMAR Filing Date 1/13/02 INFORMATION DISCLOSURE First Named Inventor Steven Teig STATEMENT BY APPLICANT Group Art Unit 2825 (use as many sheets as necessary) V. Siek **Examiner Name** SPLX.P0084 Attorney Docket Number 6 5 of Sheet

		NON PATENT LITERATURE DOCUMENTS	
15	60.	Hu, J. et al., A Timing-Constrained Algorithm for Simultaneous Global Routing of Multiple Nets, IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000, pp.99-103.	
	61.	Kastner, R. et al, Predictable Routing, IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000. pp. 110-113.	
	62.	Khoo, K. et al., An Efficient Multilayer MCM Router Based on Four-Via Routing, 30 th ACM/IEEE Design Automation Conference, 1993, pp. 590-595.	
	63.	Lillis, J. et al., Table-Lookup Methods for Improved Performance-Driven Routing, 1998, pp. 368-373.	
	64.	Lipski, W. et al., A Unified Approach to Layout Wirability, Mathimatical Systems Theory, 1987, pp. 189-203.	
	65.	Lodi, E. et al., A Preliminary Study of a Diagonal Channel-Routing Model, Algorithmica, 1989, pp.585-597.	
	66.	Lodi, E. et al., Lecture Notes in Computer Science, A 4d Channel Router for a Two Layer Diagonal Model, pp. 464-476, July 1988.	
	67.	Naclerio, N. et al., Via Minimization for Gridless Layouts, 24 th ACM/IEEE Design Automation Conference, 1987, pp. 159-165.	
	68.	Nam, G. et al, Satisfiability-Based Layout Revisited: Detailed Routing of Complex FPGAs Via Search-Based Boolean SAT, 1999, pp. 167-175	
	69.	Oh, J. et al., Constructing Lower and Upper Bounded Delay Routing Trees Using Linear Programming, 33 rd Design Automation Conference, 1996.	
	70.	Partitioning Logic on to Graph Structure, IBM Technical Disclosure Bulletin, February 1990, vol. 32, iss. 9A, pp. 469-475.	
	71.	Phillips, N., Channel Routing by Constraint Logic, Department of Computer Science Southern Illinois University, ACM, 1992.	
 	72.	Takashima, Y. et al, Routability of FPGAs with Extremal Switch-Block Structures, IEICE Trans. Fundamentals, vol. E81-A, No. 5, May 1998, pp. 850-856.	
1/5	73.	Thakur, S. et al., Algorithms for a Switch Module Routing Problem, 1994, pp. 265-270.	

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		NON PATENT LITERATURE DOCUMENTS	
1/5	74.	Theune, D. et al., HERO: Hierarchical EMC-constrained routing, 11/1992, IEEE pp 468-472	
)	75.	Tseng, H., Timing and Crosstalk Driven Area Routing, pp. 378-381.	
1	76.	Wang, D., Novel Routing Schemes for IC Layout, Part I: Two-Layer Channel Routing, 28th ACM/IEEE Automation Conference, 1991, pp. 49-53.	_
	77.	Wang, M. et al., Modeling and Minimization of Routing Congestion, Jan. 2000, IEEE proceedings of ASP-DAC, Asia and South Pacific, pp. 185-190.	
	78.	Wood, G. et al., FPGA Routing and Routability Estimation Via Boolean Satisfiability, Department of Electrical and Computer Engineering Carnegie Mellon University, Plttsburgh, PA, pp. 119-125.	
	79.	Zhang, C.X. et al., Floorplan Design Using a Hierarchical Neutral Learning Algorithm, IEEE, 6/1991. pp. 2060-2063.	
	80.	Zhou, H. et al., An Optimal Algorithm for River Routing with Crosstalk Constraints, 1996.	
	81.	Zhou, H. et al., Global Routing with Crosstalk Constraints, Department of Computer Sciences, University of Texas, 1998, pp. 374-377.	
1/5	82.	Zhou, H. et al., Optimal River Routing with Crosstalk Constraints, ACM Transactions on Design Automation of Electronic Systems, vol. 3, No. 3, July 1998, pp. 496-514.	

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